NEW 2018 EDITORS IN CHIEF ANNOUNCED FOR IEEE COMPUTER SOCIETY PUBLICATIONS

The IEEE Computer Society (IEEE CS) Board of Governors has confirmed incoming editors in chief (EICs) of five magazines, four transactions, and a new publication called IEEE Letters of the Computer Society for the 2018–2020 term starting on 1 January 2018.


Shu-Ching Chen, Florida International University—IEEE MultiMedia. IEEE MultiMedia serves the community of scholars, developers, practitioners, and students who are interested in multiple media types and work in fields such as image and video processing, audio analysis, text retrieval, and data fusion.

Marc Langheinrich, University of Vienna—IEEE Pervasive Computing. IEEE Pervasive Computing explores the role of computing in the physical world, as characterized by implementations including the Internet of Things and ubiquitous computing.

David M. Nicol, University of Illinois at Urbana-Champaign—IEEE Security & Privacy. IEEE Security & Privacy’s primary objective is to stimulate and track advances in security, privacy, and dependability and present these advances in a form that can be useful to a broad cross-section of the professional community—ranging from academic researchers to industry practitioners.

Irena Bojanova, National Institute of Standards and Technology (NIST)—IT Professional. IT Professional is a bimonthly publication of the IEEE CS for the developers and managers of enterprise information systems. Coverage areas include emerging technologies, web services, Internet security, data management, enterprise architectures and infrastructures, software development, systems integration, and wireless networks.

Jaideep Vaidya, Rutgers University—IEEE Transactions on Dependable and Secure Computing (TDSC). TDSC is a bimonthly journal that publishes archival research results focused on foundations, methodologies, and mechanisms that support the achievement of systems and networks that are dependable and secure to the desired degree without compromising performance.

Cecilia Metra, University of Bologna—IEEE Transactions on Emerging Topics in Computing (TETC). TETC covers aspects of computer science, computing technology, and computing applications not currently covered by other IEEE CS transactions.

Manish Parashar, Rutgers University—IEEE Transactions on Parallel and Distributed Systems (TPDS). TPDS is a scholarly archival journal, published monthly. It contains a range of papers, comments on previously published papers, and survey articles that deal with the parallel and distributed systems research areas of current importance to readers.

Nenad Medvidović, University of Southern California—IEEE Transactions on Software Engineering (TSE). TSE is an archival journal published bimonthly, focused on well-defined theoretical results and empirical studies that have potential impact on the construction, analysis, or management of software.

Darrell Long, University of California, Santa Cruz—IEEE Letters of the Computer Society (LOCS). LOCS is a rigorously peer-reviewed forum for rapid publication of brief articles describing high-impact results in all areas of interest to the IEEE CS.

For complete details for all publications, please visit www.computer.org/web/publications.

UNIVERSITY OF BRITISH COLUMBIA’S GAIL MURPHY RECEIVES IEEE CS 2018 HARLAN D. MILLS AWARD

Gail Murphy, professor of computer science and vice president of research and innovation at the University of British Columbia, has been awarded the 2018 Harlan D. Mills Award. A Fellow of the Royal Society of Canada and ACM, Murphy was recognized “for outstanding research on understanding software-development practices and tools that improve the productivity of developers.” Her research interests include improving the productivity of software developers and knowledge workers by giving them tools to identify, manage, and coordinate the information that really matters for their work. The part of being a faculty member

CS CONNECTION
Murphy enjoys most is “working with fabulous students.”

She is currently a co-chair for the Contributing Articles section of Communications of the ACM and a past member of the editorial boards of the IEEE Transactions on Software Engineering, the ACM Transactions on Software Engineering and Methodology, and the Empirical Software Engineering journal.

Murphy has also been the recipient of a University of Washington (UW) Computer Science & Engineering Alumni Achievement Award, UW College of Engineering Diamond Alumni Award, a NSERC Steacie Memorial Fellowship, the CRA-W Anita Borg Early Career Award, a Killam Research Fellowship from UBC, and the Dahl-Nygaard Junior Prize from AITO. She is also a co-founder and member of the board of Tasktop Technologies Inc.

She has served on numerous program committees for top conferences in software engineering, including serving as program chair for the 2008 ACM SIGSOFT Foundations of Software Engineering Conference (FSE) and as co-program chair for the 2012 AMC/IEEE International Conference on Software Engineering (ICSE).

Murphy received a BSc (Honours) degree in computing science from the University of Alberta, and MS and PhD degrees in computer science and engineering from the UW.

The Harlan D. Mills Award recognizes researchers and practitioners who have demonstrated long-standing and impactful contributions to software engineering practice and research through the development and application of sound theory. Further information about the award, including a list of past participants, can be found at www.computer.org/web/awards/mills.

IEEE CS PREDICTS TOP 10 TECHNOLOGY TRENDS FOR 2018

Each year, IEEE CS tech experts predict the “Future of Tech,” and what they believe will be the biggest technology trends for 2018. This forecast from the world’s premier organization of computing professionals is among its most anticipated announcements.

“These predictions, based on a deep-dive analysis by a team of leading technology experts, identify top-trending technologies that hold extensive disruptive potential for 2018,” said Jean-Luc Gaudiot, 2017 IEEE CS President. “The vast computing community depends on the Computer Society as the provider for relevant technology news and information, and our predictions directly align with our commitment to keeping our community well-informed and prepared for the changing technological landscape of the future.”

Dejan Milojčić, Hewlett Packard Enterprise Distinguished Technologist and IEEE CS past president said, “We will witness some of the most intriguing dilemmas in the future of technology. Will deep learning and AI indeed expand deployment domains or remain within the realms of neural networks? Will cryptocurrency technologies keep their extraordinary evolution ...? Will new computing and memory technologies finally disrupt the extended life of Moore’s law? We’ve made our bets on our 2018 predictions.”

The award consists of a $3,000 honorarium and museum-quality memento, and the invitation to give a talk during the 33rd IEEE/ACM International Conference on Automated Software Engineering (ASE 2018) on 7 September 2018, in Montpellier, France.

The top 10 technology trends predicted to reach adoption in 2018 are summarized below (adapted from the article posted at www.computer.org/web/pressroom/top-technology-trends-2018).

1. Machine learning (ML) and more specifically deep learning (DL) will continue to be widely adopted. DL will be explored at the edge of the network to reduce the amount of data propagated back to datacenters, in addition to other applications.

2. Digital currencies will continue to be more widely adopted for trading, and will trigger improved security.

3. Blockchain and the revitalization of peer-to-peer computing will continue to expand, with increases in the number of companies delivering blockchain products, even IT heavyweights.

4. Industrial IoT, empowered by DL at the edge, will continue to be the most widely adopted use case for edge computing. With a broader set of technical offerings enabled by DL, as well as other uses of IoT, it will continue to be expand.

5. Robotics: with increasing market availability of consumer robots, as well as more sophisticated military and industrial robots, we predict even wider in the medical space for caregiving and other healthcare uses.

6. Assisted transportation: although fully autonomous vehicles have met with obstacles, a limited use of automated assistance continues to grow. We expect that vehicle assistance will develop further as
automation and ML/DL are deployed in the automotive industry.

7. Assisted reality and virtual reality (AR/VR) will continue to embrace modern user interfaces such as 3D projections and movement detection, allowing individuals and their metadata to link up and prompting further review of international policies for cybersecurity and privacy.

8. Ethics and policies: in light of all the developments noted above, technology has moved beyond our ability to control it easily. Mandatory guidance has already been deeply analyzed and rolled out in various aspects of design (see the IEEE standards association document), and it is further being applied to autonomous and intelligent systems and in cybersecurity. But adoption of ethical considerations will speed up in many vertical industries and horizontal technologies.

9. Accelerators and 3D technologies will continue to take center...
stage as we strategize how to cope with the end of power scaling and Moore’s law.

10. Cybersecurity and AI: security incidents are increasingly common and difficult to neutralize, thus pure automation in cybersecurity no longer suffices, and AI is required to enhance data analytics and automated scripts. But AI itself is not immune to cyberattacks, thus we will need to make AI/DL techniques more robust in the presence of adversarial traffic in any application area.

IEEE CS technical contributors to this report include Erik DeBenedictis, Sandia National Laboratories; Fred Dougis, systems researcher and member of IEEE CS Board of Governors; David Ebert, professor, Purdue University; Paolo Faraboschi, Hewlett Packard Enterprise Fellow; Eitan Frachtenberg, data scientist; Phil Laplante, professor, Penn State University; and Dejan Milojićić, Hewlett Packard Enterprise Distinguished Technologist and IEEE CS past president. The technical contributors for this document are available for interview.

ERRATA
In “The New Science Wars” (H. Berghel, vol. 50, no. 11, 2017, pp. 72–76), there is an error in the reference list on p. 76. The number for reference 2 was inadvertently dropped, causing the remaining references to be incorrectly numbered. References identified in the list as 2–10 should accordingly be references 3–11. The reference citations within the article itself are correct.

In the Table of Contents for January 2018 (vol. 51, no. 1), author Ramine Tinati’s name was inadvertently misspelled (Tinati co-authored “From Brexit to Trump: Social Media’s Role in Democracy”).

Computer regrets these errors.

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